

2. (ONCE AMENDED) The plasma display apparatus, as set forth in claim 1, wherein the X sustaining circuit and the Y sustaining circuit include power recovery circuits each of which has a resonant circuit formed with a display capacitor of the plasma display panel, recovers energy when an application of the sustaining pulse is released and uses the recovered energy for a next application of the sustaining pulses, is provided.

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3. (ONCE AMENDED) The plasma display apparatus, as set forth in claim 2, wherein the X sustaining circuit and the Y sustaining circuit comprise the first and the second output devices connected between a path through which the sustaining pulses are supplied and a high voltage power source line, and between the path and a low voltage power source line, respectively, a third output device that switches a connection state of the path and the power recovery circuit to a state in which power is supplied from the power recovery circuit to the path, a fourth output device that switches the connection state of the path and the said power recovery circuit to a state in which power is recovered from the path to the power recovery circuit, and a first drive circuit through a fourth drive circuit that drive the first through the fourth output devices, respectively; and a phase adjusting circuit to adjust a time difference between a turning on of the third output device and that of the first output device, and a time difference between a turning on of the fourth output device and that of the second output device.

4. (ONCE AMENDED) The plasma display apparatus, as set forth in claim 3, wherein the phase adjusting circuit comprises the first phase adjusting circuit, the second phase adjusting circuit, a third phase adjusting circuit and a fourth phase adjusting circuit provided at a stage preceding the first drive circuit through the fourth drive circuit, respectively.

5. (ONCE AMENDED) The plasma display apparatus, as set forth in claim 1, wherein the plasma display panel forms a first display line between one side of one of the second electrodes and one adjacent electrode of the first electrodes, a second display line between another side of the one second electrode and another adjacent electrode of the first electrodes, and forms a display field of a frame by plural subfields, and provides a gray scale by combining said subfields selectively for display; the X sustaining circuit is equipped with a first X sustaining circuit that supplies the sustaining pulse to an odd-numbered electrode of the first electrodes, and a second X sustaining circuit that supplies the sustaining pulse to an even-

numbered electrode of the first electrodes; and the Y sustaining circuit is equipped with a first Y sustaining circuit that supplies the sustaining pulse to an odd-numbered electrode of the second electrodes, and a second Y sustaining circuit that supplies the sustaining pulse to an even-numbered electrode of the second electrodes.

6. (ONCE AMENDED) The plasma display apparatus, as set forth in claim 5, wherein the first X sustaining circuit and the second X sustaining circuit and the first Y sustaining circuit and the second Y sustaining circuit are equipped with phase adjusting circuits, respectively; and a difference in rising or falling timing between the sustaining pulse output by the first X sustaining circuit and that output by the first or the second Y sustaining circuit, and a difference in rising or falling timing between the sustaining pulse output by the second X sustaining circuit and that output by the first or the second Y sustaining circuit are adjusted so that the differences of the timings are within a predetermined range.

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7. (ONCE AMENDED) The plasma display apparatus, as set forth in claim 6, wherein the predetermined range is within  $\pm 30$  ns.

8. (ONCE AMENDED) The plasma display apparatus, as set forth in claim 1, wherein a phase adjusting circuit is set by observing a waveform when the sustaining pulse is applied to the first or second electrode of the plasma display panel.

9. (ONCE AMENDED) A manufacturing method of a plasma display apparatus comprising a plasma display panel having first electrodes and second electrodes arranged adjacently to each other, extending in a first direction, and address electrodes extending in a second direction at a right angle to the first direction, an X sustaining circuit that supplies a sustaining pulse to said first electrodes, and a Y sustaining circuit that supplies a sustaining pulse to said second electrodes, wherein delay times of circuit devices with respect to signals, which form the X sustaining circuit and the Y sustaining circuit, are measured and the circuit devices are classified according to the delay times; sets of the classified circuit devices are selected so that a timing of a changing edge of each said sustaining pulse falls within a predetermined allowance; and the sets of the selected circuit devices are provided for the plasma display apparatus.

10. (ONCE AMENDED) A manufacturing method of a plasma display apparatus, as set forth in claim 9, wherein said plasma display panel forms a first display line between one side of one of the second electrodes and one adjacent electrode of the first electrodes, a second display line between another side of the one second electrode and another adjacent electrode of the first electrodes, forms a display field of a frame by plural subfields, and provides a gray scale by combining said subfields selectively for display; the X sustaining circuit is equipped with a first X sustaining circuit that supplies the sustaining pulse to an odd-numbered electrode of the first electrodes, and a second X sustaining circuit that supplies the sustaining pulse to an even-numbered electrode of the first electrodes; the Y sustaining circuit is equipped with a first Y sustaining circuit that supplies the sustaining pulse to an odd-numbered electrode of the second electrodes, and a second Y sustaining circuit that supplies the sustaining pulse to an even-numbered electrode of the second electrodes; and a difference in rising or falling timing between the sustaining pulse output by the first X sustaining circuit and that output by the first or the second Y sustaining circuit, and a difference in rising or falling timing between the sustaining pulse output by the second X sustaining circuit and that output by the first or the second Y sustaining circuit are adjusted so that the differences of timings are within a predetermined range, when the circuit devices of the first and second X sustaining circuits and the first and second Y sustaining circuits are selected.

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11. (NEW) A plasma display apparatus having a plasma display panel with first electrodes and second electrodes arranged adjacently to each other, extending in a first direction, and address electrodes extending in a second direction at a right angle to the first direction, comprising:

X and Y sustaining circuits to supply sustaining pulses to said first electrodes and said second electrodes, respectively;

wherein said X and Y sustaining circuits respectively comprise:

a first output device;

a second output device, the first and second output devices of respective X and Y sustain circuits generating sustaining pulses;

a first phase adjusting circuit to adjust timing of a changing edge of a first driving signal which drives said first output device; and

a second phase adjusting circuit to adjust timing of a changing edge of a second driving signal which drives said second output device.

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12. (NEW) The plasma display apparatus, as set forth in claim 11, wherein the X sustaining circuit and the Y sustaining circuit, respectively, further comprising:

a power recovery circuit having a resonant circuit formed with a display capacitor of the plasma display panel to recover energy of an applied sustaining pulse for an application in a subsequent sustaining pulse.

13. (NEW) The plasma display apparatus, as set forth in claim 12, wherein the X sustaining circuit and the Y sustaining circuit, respectively, further comprise:

one of a first connection between a high voltage power source line and the first and the second output devices and a second connection between a low voltage power source line and the first and the second output devices to supply and recover energy from the sustaining pulses.

14. (NEW) The plasma display apparatus, as set forth in claim 13, wherein the X sustaining circuit and the Y sustaining circuit, respectively, further comprise:

a first drive circuit through a fourth drive circuit that drive the first output device through the fourth output device, respectively; and a phase adjusting circuit to adjust a time difference between a beginning of an on-state of the third output device and a beginning of an on-state of the first output device, and a time difference between a beginning of an on-state of the fourth output device and a beginning of an on-state of the second output device.

15. (NEW) The plasma display apparatus, as set forth in claim 14, wherein the phase adjusting circuit comprises the first phase adjusting circuit, the second phase adjusting circuit, a third phase adjusting circuit and a fourth phase adjusting circuit provided at a stage preceding the first drive circuit through the fourth drive circuit, respectively.

16. (NEW) A method of manufacturing a plasma display apparatus having X and Y sustaining circuits to supply sustaining pulses to first electrodes and second electrodes, respectively, comprising:

measuring delay times of circuit devices which form the X sustaining circuit and Y sustaining circuit with respect to signals;